EASTERN RESEARCH GROUP, INC.

MEMORANDUM

TO: Bill Maxwell, U.S. Environmental Protection Agency (EPA), Office of Air Quality Planning Standards (OAQPS) (MD-13)

FROM: Heather Wright, Eastern Research Group (ERG), Morrisville

DATE: February 6, 1998

SUBJECT: Final Summary of the January 20 and 21, 1998 Meeting of the Industrial Combustion Coordinated Rulemaking (ICCR) Process Heater Work Group

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1.0 INTRODUCTION

- The purpose of the meeting was to allow attendees to discuss various activities of the ICCR Process Heater Work Group (PHWG). A meeting agenda and a list of action items and goals for the Work Group are included as attachment 1. The flash minutes for the meeting are also included as attachment 2.

  - The meeting was held on January 20 and 21 in San Francisco, CA.

  - A complete list of meeting attendees (with their affiliations) is included as attachment 3.

  - The Work Group agreed that their primary goal for the meeting was to focus on a determination of maximum achievable control technology (MACT) floor for indirect, gas-fired and possibly other-fired process heaters.

2.0 SUMMARY OF DISCUSSION AND DECISIONS

The discussion generally followed the agenda. Topics of conversation are summarized in the following sections:

2.1 Direct-Fired Process Heater Subgroup Status Report
2.2 ICCR Pollution Prevention Subgroup Status Report
2.3 Good Combustion Practices Subgroup Status Report
2.4 Discussion of Good Combustion Practices Subgroup Status Report
2.5 Other-Fired Units Discussion
2.6 MACT Floor Determination For Gas- and Liquid-Fired Units
2.7 MACT Floor Documentation
2.8 Numeric Emissions Limits
2.9 Applicability Threshold Discussion
2.10 Testing Needs
2.11 Additional Issues For Controlling HAPs
2.12 Industrial Combustion Coordinated Rulemaking Survey Database
2.13 Inventory Database Status
2.14 Model Plants
2.15 Discussion of Long Range Planning and Goal Setting
2.16 Upcoming Presentation to the Coordinating Committee

2.1 Direct-Fired Process Heater Subgroup Status Report

Bruno Ferraro presented a status report and a draft of the Subgroup's direct-fired process heater recommendation (see handout presented as attachment 4).

- The Subgroup's recommendation outlined reasons why the PHWG should focus on indirect-fired units and not direct-fired units. An EPA representative stated that many direct-fired units will be covered under other MACT standards and that EPA is currently discussing how to address those units that are not expected to be covered.

- The Subgroup also recommended that if, in the course of ICCR review and deliberations, a category of direct-fired units is identified and is not scheduled to be covered under another MACT standard, they could be considered for inclusion in the ICCR.

- Concern was expressed within the PHWG that an active attempt by members to identify all direct-fired units and determine if they will be covered under other EPA rules will be highly time consuming and beyond the scope of work for the group. Several members of the Work Group believe that if direct-fired units are identified as potential sources of hazardous air pollutants (HAPs) and are not covered under other source specific MACTs, then EPA should consider how these units be handled, rather than the Work Group themselves or the Coordinating Committee (CC).

- Some Work Group members expressed concern that a position on this subject was not presented to the Work Group by representatives of environmental interest groups prior to or at the time of the meeting.

- The Work Group members agreed that they support the direct-fired units recommendation presented by the Subgroup. Members discussed changes that should be made to the document before it is submitted to the CC. A Work Group member suggested that they include as an attachment to the final recommendation, a table listing the various industries which utilize direct-fired units.

- Bruno Ferraro will finalize the Work Group's recommendation on direct-fired units. Mr. Ferraro will provide a final draft to members electronically for comments. Any comments or corrections must be forwarded to him by close of business (COB) January 30. Mr. Ferraro will then update the document for discussion at the February 10 and 11 meeting.

2.2 ICCR Pollution Prevention Subgroup Status Report

Janet Peargin presented an update of the ICCR Pollution Prevention (P2) Subgroup.

- The purpose of the Subgroup is to develop guidelines and make recommendations to the source work groups as to how P2 might be implemented. The source work groups will make the final determinations as to the types of P2 techniques that will work best for their combustion units.

- Many Subgroup members are in agreement that P2 should not be overly prescriptive. Because the ICCR is working with such a wide variety of combustion units, the recommendations must be flexible. Flexibility is important because P2 techniques can be process- or company-specific. Other Subgroup members were concerned that they will make the recommendations too flexible, leaving the source work groups with little guidance.

- Four smaller groups were formed within the Subgroup to address different areas of P2 and are summarized as follows:

  (1) Input (fuel/waste management) - focusing on the types of fuels being combusted, especially waste fuels as input, waste segregation, and input control;
  (2) Output (energy output) - focusing on energy efficiency as a P2 technique on the output side of the combustion process (members believe that many

sources are implementing energy efficient techniques and should be given credit for doing so);

(3) Operator training - focusing on operator training and where it may come into the regulations, as well as the pros and cons of doing so; and

(4) Good combustion practices (device operation) - focusing on how good combustion practices (GCP) may be utilized as P2 for various types of units (many of the source work groups have shown interest in GCP).

2.3 Good Combustion Practices Subgroup Status Report

Chuck Feerick presented a status report and a draft of the Subgroup's findings on GCP to control HAP emissions from indirect, gas- and liquid-fired process heaters (see handouts presented as attachment 5).

- The Subgroup finalized a list of GCP for indirect gas-fired process heaters. Maintenance of the 1 to 2 stoichiometric ratio is believed to be the most important practice to reduce HAP emissions.

- The Subgroup presented various methods that facilities could use to demonstrate compliance with the standard. Operators may monitor maintenance of the ratio in various ways for different types of units. The Subgroup has not determined the merits of one method over another to monitor the ratio.

- Operator knowledge and skill were also discussed. It was suggested that facilities should develop in-house training programs that are specific to the units being used on-site, rather than implementing a nationwide training program. Maintenance of training records on-site could be used to demonstrate compliance with training requirements.

- The Subgroup determined that GCP for indirect, liquid-fired units are very similar to those for indirect, gas-fired units with the exception that fuel atomization must be achieved. It is believed that adequate mixing of the liquid fuel and combustion air is the key to good combustion. A continuous or parametric monitoring program should be considered to monitor that adequate mixing occurs.

- Subgroup members recognize that there are periods of on-line maintenance where the stoichiometric ratio cannot be met. A recognition of these types of process excursions and possibly a separate plan to minimize emissions during these times should be developed. Malfunctions must also be addressed. The Subgroup will review the 40 CFR part 63 general provisions to determine how they address maintenance and malfunctions.

- Indirect, other-fired units were briefly discussed. The Subgroup has little information on process heaters utilizing other fuels, such as solids and non-petrochemical based liquids. As such, no GCP have been developed for such units.

2.4 Discussion of Good Combustion Practices Subgroup Status Report

- The PHWG members agreed that operator training and certification should be site specific and that companies will have to document what is being done to fulfill such a requirement. An EPA representative stated that a specific list of criteria for operator training should be developed if training will be required and that a nationwide training program will likely be too resource intensive. It was also mentioned that development and documentation of a training program may be difficult and/or unnecessary for small businesses with small process heaters.

- A Work Group member suggested that the PHWG exchange information with the P2 Subgroup on training and certification issues.

- An EPA representative explained that the Work Group must consider how an inspector could verify compliance. For example, maintenance of the stoichiometric ratio includes visual inspection of the flame and would be difficult for an inspector to verify. The PHWG must develop recommendations for monitoring compliance.

- A suggestion was made to develop more prescriptive language to make verification of compliance easier. For example, language could be drafted to say that units must be operated within 10 degrees of the ideal temperature to properly maintain the stoichiometric ratio. Such language still allows flexibility because each unit might have its own ideal temperature, but allows for a measurable demonstration of compliance.

- Automatic feedback systems were also discussed as a means to demonstrate compliance and maintain the stoichiometric ratio.

- It was mentioned that the stoichiometric ratio is related to residence time, temperature, and turbulence. Jim Seebold will provide guidance for addressing questions of how residence time, temperature, and turbulence are related to the stoichiometric ratio.

- The Boiler Work Group has shown interest in sharing their ideas on GCP with the PHWG GCP Subgroup. A Work Group member suggested that someone update the Boiler Work Group on the Subgroup's findings for gas- and liquid-fired indirect process heaters and get their input.

2.5 Other-Fired Units Discussion

- The Work Group decided that the GCP developed for liquid-fired units are applicable for fuel oil and fuel oil-like liquids and applicability for other liquids could not be determined at this time. Other liquids will be considered for inclusion in the fuel oil-like category, while some, such as styrene or toluene, may have to be treated separately.

- Work Group members decided to remove fuel oil and fuel oil-like fired units from the other-fired category in order to allow the MACT floor recommendation for these units to be finalized. The MACT floor for the redefined other-fired category will be delayed until more information can be gathered on other-fired units (not fired by gas, fuel oil, or fuel oil-like liquids). This other-fired category may need to be subcategorized once more information is collected. Categories might include other-fired liquids (unlike fuel oil), other-fired solids, and wood. In addition, it was mentioned that many other-fired units may utilize fuel mixtures.

- Several members of the PHWG expressed that they have little expertise in the area of non-traditional fuel types for process heaters. An EPA representative stated that Work Group members do not have to have extensive knowledge about the use of other fuels to be able to develop recommendations for standard development. A suggestion was made to contact the Boiler Work Group about utilization of other fuels, since members of that source category tend to deal with more uncommon fuels, such as wood and waste.

- The Work Group formed an Other-Fired Process Heater Subgroup to develop a strategy to address units firing fuels other than gas, fuel oil, and fuel oil-like liquids. The Subgroup consists of the following members: Roy Carwile, Oliver Stanley, Bruno Ferraro, Karluss Thomas, Bill Maxwell, John Ogle, and Lawrence Otwell (subgroup lead).

- EPA will query and sort the survey and inventory databases to extract information on units burning anything other than gas or fuel oil (including fuel oil like liquids) and distribute this information electronically to the Work Group. Work Group members will review the data on other-fired units for errors and forward corrections and additional information to Lawrence Otwell. The Other-Fired Subgroup will then review the available information and develop an approach for other-fired units.

- There was some concern that the miscellaneous fuels may include materials defined as solid waste, which will require them to be addressed differently. Members suggested waiting to discuss this issue until EPA gives further guidance on a waste definition and after the ICCR P2 Subgroup addresses input fuels, input control, and waste segregation. An EPA representative said that EPA hopes to have more clarification on a waste definition for the February CC meeting. A suggestion was

also made that the subject be discussed after the floor is determined, as control alternatives will be developed later in the regulatory development process.

- A question was raised as to whether distillate oil should be treated and investigated separately from residual oil. Some Work Group members believe they should be treated separately, because fuels like residual oil could contain metals and other, different potential pollutants. Members were unsure if there are process heater units that actually burn residual oil. One member stated that GCP for fuel oil-like fired process heaters will likely be the same no matter what type of oil is burned.

- It was suggested that controls for units firing fuels other than liquid and gas, be investigated by the Other-Fired Process Heater Subgroup.

2.6 MACT Floor Determination For Gas- and Liquid-Fired Units

- The Work Group came to closure on the MACT floor for existing gas- and liquid-fired units (fuel oil and fuel oil-like liquids). It was decided that the floor for these sources is GCP.

- It was decided that the GCP Subgroup would revise the MACT floor tables with a focus on differentiating between good combustion practices and the monitoring requirements or methods utilized to achieve and maintain them. It was suggested that the first two columns of the table presented by the GCP Subgroup, labeled good combustion practices and standards, are the MACT floor. The third column, entitled monitoring requirements, are implementation and compliance issues. Several members believe that some items listed in the third column should be moved to the second column before the information is presented to the CC as the MACT floor.

- Some PHWG members stated that they should not include monitoring, equipment standards, and documentation requirements when they present the floor to the CC, because they are still under development. It was decided that the GCP Subgroup will further consider and begin to develop monitoring, compliance, and documentation requirements.
- The GCP Subgroup also agreed to consider maintenance practices for inclusion with good combustion practices.

2.7 MACT Floor Documentation

- An EPA representative stated that the PHWG must have full documentation of how they arrived at GCP for the MACT floor. They must also develop a procedural, mathematical approach to determine a numeric emission limit as required by the statute.

- Work Group members stated that there is very limited data to perform a numerical analysis. An EPA representative stated that the statute includes recognition that data might be limited, so they must perform a mathematical determination with the existing information. It was also mentioned that the Petroleum Environmental Research Forum (PERF) study indicates that emissions are very low for process heaters firing gas. The emissions data could thus be a result of inherent variability in sampling rather than the operating conditions themselves and may not be useful for a numerical analysis.

- The Work Group agreed that they already have a great deal of information to support using GCP for the MACT floor and formed a MACT Floor Documentation Subgroup to compile and develop background documentation for the MACT floor approach. The Subgroup consists of the following members: Roy Carwile, Jane Williams, Bill Maxwell, John Ogle, Jim Seebold, and Lee Gilmer (subgroup lead). The Subgroup will also conduct an emissions analysis and a control analysis to determine the results of performing a conventional MACT floor analysis on the existing data. The Subgroup will contact the Combustion Turbine Work Group to review their progress in this area.

- Work Group members suggested that the report documenting floor determination include an executive summary and an attachment of the PERF data as an appendix to the numerical analysis.

2.8 Numeric Emissions Limits

- Chuck Feerick presented a position on the infeasibility of prescribing and enforcing numeric emissions limits for process heaters (see handout presented as attachment 6). An EPA representative explained the requirements of Section 112 of the Clean Air Act for numeric emission limits. Section 112 requires that a numeric emission limit be set unless such limits are not feasible.

- The PHWG agreed to pursue the position that numeric emission limits are economically infeasible due to technical limitations. Some Work Group members also indicted that an emission limit does not give an operator enough information to determine if good combustion is being achieved.

- A Work Group member stated that the environmental caucus is in favor of establishing numeric emissions limits, because they are concerned with how compliance will be determined and monitored for standards based on GCP.

- The Work Group formed a Numeric Emission Limits Subgroup to investigate the feasibility of setting numeric emission limits. The Subgroup consists of the following members: David Schanbacher, Bill Maxwell, Jane Williams, Jim Seebold, and Chuck Feerick (subgroup lead). The Subgroup will fully develop a position paper discussing the infeasibility of numeric emission limits, including discussion of the economic feasibility. The Subgroup will also contact the Combustion Turbine Work Group to review their numeric emissions limit determination.

- A question arose as to whether numeric limits strictly mean an emission level that can be monitored or whether it might also mean maintenance of a certain percent O_2, CO level, or temperature that could be measured as a surrogate for HAPs. An EPA representative pointed out that the emission limits being discussed are for HAPs, and not surrogates for HAPs.

- A suggestion was made that the Work Group should further explore the economic burdens to better support their belief that numeric limits are infeasible. Several members of the Work Group agreed that due to several reasons, including very low detection limits, it will be highly expensive to test for HAPs for monitoring and compliance purposes. A Work Group member stated that the cost to test per unit of pollutant will be unreasonable.

2.9 Applicability Threshold Discussion

- The PHWG discussed unit size variation and how it should be addressed. Work Group discussions determined that a *de minimis* level was not needed for the purposes of information collection. Many Work Group members believe that there should be a de minimis level and that the applicable units will need to be treated separately from other units.

- The Work Group discussed determining if there are units that can be distinctly grouped together because of their size. They also discussed reasons other than size that make the operation of some units different from others.

- A Work Group member stated that there may not be much information in the emissions database about smaller sized units, because many states, like Texas, only collect information on units above a certain size.

- Many smaller units are not continuously monitored and many are designed so that there is no operator control; they simply have an on/off switch. It may not be possible for these units to be controlled and monitored in the same manner as larger units. Members believe that such units exist at exploration and production facilities and in the agricultural industry. Other members agreed that thousands of small units may exist and could be difficult to locate (they will be located at both major and area sources or remotely located and disaggregated). It was also mentioned that many smaller units are fired with natural gas and thus, will have extremely low emissions. Several members of the Work Group agreed that units of 10 to 50 MMBtu (million British thermal units per hour) in size can be fully automated.

- A Work Group member pointed out that the Work Group should recommend a *de minimis* level and determine whether it will preclude those units from any regulation or whether they will be captured under the rule, but not subject to GCP. An EPA representative mentioned that the HON covers all units, but some units have no compliance requirements based on certain criteria.

- A Work Group member stated that all units should be covered under the MACT rule and that a cut-off determination should be made based on whether or not the unit can be controlled or adjusted. The Work Group member further stated that if GCP do not apply to these passive units, the PHWG must investigate what the floor may be for such units.

- It was suggested that the standard for passive units include regular maintenance and a requirement to operate within the design parameters and manufacturers specifications. It was also mentioned that establishing manufacturing requirements for smaller units might be an option, but several members disagreed.

- A meeting participant suggested that the Work Group must make a distinction between: (1) whether or not a standard can be developed for passive units, or (2) whether or not it is possible to monitor a standard if one is developed. Making such a determination should allow the Work Group to clarify and better develop rules for the treatment of passive units.

- The Work Group formed an Applicability Threshold Subgroup to develop an approach for making an applicability determination. The Subgroup consists of the following members: Dave Smith, Bruno Ferraro, Chuck Feerick, Oliver Stanley, Bill Maxwell, and John Ogle (subgroup lead). The Subgroup is to review the HON (and other regulations) to identify possible cases for a threshold and to develop an approach for making a final determination on an applicability threshold. John Ogle and the Subgroup will have a status report prepared for the February 26 meeting.

2.10 Testing Needs

- Several Work Group members believe that no testing needs exist for indirect, gas- and liquid-fired units (fuel oil and fuel oil-like liquids), because PERF data provides sufficient information and such units do not have add-on controls. Other members suggested that testing of these units may still be needed for analyses of control options beyond the floor. Another point was raised that testing of such units may reveal that some units may have lower emissions than others, which would be important for the Work Group to know.

- A question was raised as to whether the Boiler Work Group has test data for liquid-fired units. An EPA representative stated that the Utility Air Toxics Study has some fuel oil data, but was unsure if it indicates if electrostatic precipitators (ESPs) reduce HAP emissions.

- It was suggested that the Other-Fired Process Heater Subgroup investigate the testing needs for that category of units.

- An environmental representative stated that the time for testing and collecting information is dwindling. The Work Group must seriously consider what testing needs do exist, because the topic continually arises at meetings, but is never fully developed.

- Jane Williams will draft a position on testing needs prior to the February 26 meeting.

2.11 Additional Issues For Controlling Hazardous Air Pollutants

- Work Group members believe that environmental representatives will be concerned with the issue of how the recommendations for the MACT floor affect the emissions of criteria pollutants, such as nitrogen oxides (NO_X). Jim Seebold will investigate how the stoichiometric ratio relates to NO_X emissions and if narrowing the 1 to 2 stoichiometric range will have an effect on NO_X emissions.

- Another point was raised that CO levels may be reduced by the use of low NO_X burners, which may be being required in California for this purpose. Some believe that CO levels are indicative of HAP emissions, so that HAPs may be minimized by the use of low NO_X burners. Janet Peargin and Jane Williams will gather information from the California Air Resources Board (CARB) concerning possible permit conditions requiring low NO_X burners for controlling HAP emissions.

2.12 ICCR Survey Database

- The second version of the survey database was originally scheduled to be released in December, but has been pushed back until February. A preliminary review of the information has revealed that test reports are available for some process heaters.

- It was mentioned by a Work Group member that some liquid waste-fired process heaters should be revealed in the survey database. Further, it is believed by several members that wood- and coal-fired process heaters do exist (such as those which are often used to heat oil), but may not have been captured in the survey.

- The Work Group decided to resume a more intense review of information in the survey database following release of the second, updated version. It was also mentioned that the Work Group will be asked in the future to fill in data gaps once they are identified by EPA.

2.13 Inventory Database Status

- Lee Gilmer reviewed the inventory database for control information on indirect, gas- and liquid-fired units. Mr. Gilmer stated that there are no add-on controls for indirect, gas- and liquid-fired units. The only controls that exist in the database for these types of units are GCP.

- It is believed by some Work Group members that controls may exist for direct-fired units and that they would likely be found primarily in the metals industry and food and agricultural industries.

2.14 Model Plants

- A few Work Group members have started to develop model plant descriptions for their industries. It is still unclear for many members exactly what information is needed for the model plant analysis. A question was raised as to whether rigorous model plant descriptions are necessary now that the Work Group has developed GCP as the MACT floor.

- The EPA will prepare to speak about model plants at the February 26 meeting. All Work Group members will review the information provided by the Economic Analysis Work Group at the November meeting and come prepared to discuss the topic as well.

2.15 Discussion of Long Range Planning and Goal Setting

- The milestone tracking table was reviewed. The Work Group determined that much work must still be done on model plant descriptions and the economic analysis. The Work Group must also begin to discuss beyond the MACT floor issues for existing sources of indirect, gas- and liquid-fired units and MACT floor for new sources. Long range planning and goal setting will be further discussed at the February meeting.

2.16 Upcoming Presentation to the Coordinating Committee

- The Work Group decided that the following topics will be presented to the CC in February: (1) MACT floor determination for gas- and liquid-fired units, and (2) the numeric emission limits position. The Work Group will explain that documentation, maintenance, and monitoring techniques are still being considered. The Work Group also agreed to present a final decision on direct-fired process heaters.

- Lee Gilmer, John Ogle, and Bill Maxwell will coordinate information collection from the subgroups. The Work Group will finalize the material to be presented to the CC by COB February 11. All information to be presented to the CC must then be forwarded to Bill by COB February 13 for posting to the TTN (technology transfer network).

- In the status report to the CC in February, the Work Group will explain that no testing needs have been identified at this time, but are still being considered and that an applicability threshold is being considered as well.

3.0 UPCOMING MEETINGS

- A meeting for individual subgroups (MACT Floor Determination, Good Combustion Practices, and Numeric Emission Limits) is scheduled for January 28, 29, and 30 in Houston, TX. The following schedule was developed:

  - January 28 (afternoon, tentatively 1:00 p.m.) - MACT Floor Documentation Subgroup meets to begin their analyses
  - January 29 (morning, tentatively 8:00 a.m.) - Good Combustion Practices Subgroup meets
  - January 29 (mid-morning or afternoon, tentatively 10:30 a.m.) - MACT Floor Documentation Subgroup wrap-up
  - January 30 (all day) - Numeric Emission Limits Subgroup meets

  The Work Group designated leads for documentation of subgroup decisions at the Houston meeting as follows: Roy Carwile and Lee Gilmer for the MACT Floor

Documentation Subgroup, Roy Carwile and Janet Peargin for the Good Combustion Practices Subgroup, and David Schanbacher and Jane Williams for the Numeric Emission Limits Subgroup.

Chuck Feerick will distribute meeting and lodging information for the meeting.

- The next Work Group meeting is scheduled for February 10 and 11 in Los Angeles, CA. The following schedule was developed:

  - February 10 (afternoon, tentatively 1:00 p.m.) - status reports to entire Work Group from the subgroups meeting in Houston
  - February 11 (morning, tentative) - subgroup break-outs
  - February 11 (afternoon) - entire Work Group meets to finalize agenda items

  Janet Peargin will determine if the ARCO building in Los Angeles can be used for the meeting.

- A meeting is scheduled for February 26 (8:00 a.m. - 3:00 p.m.) in Winston-Salem, NC.

  The Work Group decided to discuss testing needs and model plants. Topics for this and/or future meetings also include: MACT floor for new sources, options beyond the MACT floor for existing sources, other-fired units, an applicability threshold, and pollution prevention.

- A meeting is tentatively scheduled for April 30 in Fort Collins, CO.

These minutes represent an accurate description of matters discussed and conclusions reached and include a copy of all reports received, issued, or approved at the January 20, 1998 meeting of the Process Heater Work Group. Bill Maxwell, EPA Co-Chair.

Attachment 1

Agenda For January 20 And 21, 1998 Meeting Of The
ICCR Process Heater Work Group

FINAL AGENDA
ICCR PROCESS HEATER WORK GROUP

January 20-21, 1998
Chevron Headquarters
"The El Cerrito Room", 3rd Floor
555 Market St.
San Francisco, California

January 20, 1998

When	What	Action Item	Who	Purpose
8:00	Open meeting		Maxwell	Open meeting
8:00-8:10	Review agenda / ground rules		Lalley	Agree on agenda
8:10-8:20	Status report: direct-fired subgroup	1	Ferraro, Williams	Information sharing
8:20-8:40	Status report: CC P2 subgroup		Peargin	Information sharing
8:40 - 9:10	Status report: GCP subgroup	2	Feerick	Information sharing
9:10-10:15	Detailed discussion of GCP issues		All	Identify and discuss issues of concern
10:15	Break			
10:30- 11:00	Finalize discussion of GCP issues		All	Identify areas of agreement, disagreement, and data needs
11:00-11:15	Position on numeric limits		Feerick	Information sharing
11:15-11:30	Background on numeric limits, use of surrogates		McConkey, Maxwell	Information sharing
11:30-12:00	Discussion of numeric limits and work practices			Identify areas of agreement, disagreement, and data needs
12:00-1:00	Lunch			

When	What	Action Item	Who	Purpose
1:00-1:30	Discuss results of ICCR survey	3	All	Identify "other"-fired units
1:30 - 2:00	Discuss subcategorizing "other"-fired units		Ogle	Determine necessity of subcategories
2:00-2:30	GCP and other-fired units	2	Feerick	Determine how GCP for gas-fired is similar and different
2:30-3:00	Status of inventory database control data for "other"-fired units	4	Gilmer	Information sharing
3:00-3:15	Break			
3:15-3:30	Testing needs for "other"-fired units	5	Ogle	Information sharing
3:30-4:00	Overall use of a *de minimis* level, position of boiler work group, applicability vs. control requirements		Gilmer, Maxwell, Ogle	Information sharing
4:00 - 5:00	Additional discussion of "other"-fired issues		All	Identify areas of agreement, disagreement, and data needs

January 21, 1998

When	What	Action Item	Who	Purpose
8:00 - 9:00	Finalize positions, decisions, and outstanding issues on MACT floor and regulatory alternatives for gas-fired indirect process heaters		All	Develop recommendation to CC
9:00 - 10:00	Finalize positions, decisions, and outstanding issues on MACT floor and regulatory alternatives for "other"-fired indirect process heaters		All	Develop recommendation to CC
10:00-10:15	Break			
10:15 - 11:15	Finalize positions, decisions, and outstanding issues on direct-fired units		All	Develop recommendation to CC
11:15 - 12:00	Identify testing needs for "other"-fired indirect process heaters or additional data needs		All	Develop recommendation to CC
12:00-1:00	Lunch			
1:00 - 2:00	Present preliminary model plant descriptions	6	All	Information sharing
2:00 - 2:15	Review schedule		Maxwell	
2:15 - 2:30	Identify next steps and action items		All	
2:30 - 2:45	Schedule meetings / conference calls		All	
2:45 - 3:00	Flash minutes		Wright	

ICCR Process Heater Work Group
Actions Items and Goals From November 20 Meeting

Action Items

1

- Discuss direct-fired units with environmental caucus, inform Work Group of position prior to January meeting (Williams)
- Develop approach for direct-fired units (Direct-Fired Subgroup)
- Investigate types of direct-fired process heaters to be captured under area source rule (Williams and EPA)

2

GCP Subgroup investigate:

- Monitoring stoichiometric ratio
- Cut-off for small units
- Applying stoichiometric ratio to "other" process heaters
- Beyond the floor options (for example, operator training)

GCP Subgroup summarize:

- Information when process excursions and malfunctions may cause stoichiometric ratio to be outside range (Williams, Ferraro, Otwell, interested others)
- Forwarded information on State or local regulations which cover excursions (all)

3

Review updated survey database (all)

This action item was pending a December release of version 2.0 of the survey database. Version 2.0 will not be released until February. However, version 1.0 of the survey database is available on the TTN and is believed sufficient for process heaters.

4

- Review spreadsheet provided by Lee Gilmer, identify direct-fired process heaters (all)
- Summarize control information available in inventory database (Gilmer)

5

Consider testing needs for "other" - fired units (Otwell and Ogle)

also pending a December release of version 2.0 of the survey database (see item 3)

6

Develop preliminary model plant descriptions (all)

Goals for February

- Determine MACT floor for gas and other fired indirect process heaters
- Formulate a list of regulatory alternatives
- Make emission testing recommendations (pending release of ICCR survey database)
- Recommendation to CC on direct-fired units

Attachment 2

Flash Minutes From The January 20 And 21, 1998 Meeting Of
The ICCR Process Heater Work Group

ICCR Process Heater Work Group Meeting
January 20 and 21, 1998
San Francisco, California

DECISIONS

Tuesday, January 20

The Work Group formed a MACT Floor Documentation Subgroup to compile and develop background documentation for the MACT floor approach. The Subgroup consists of the following members: Roy Carwile, Jane Williams, Bill Maxwell, John Ogle, Jim Seebold, and Lee Gilmer (subgroup lead).

The Work Group formed an Other-Fired Process Heater Subgroup to develop a strategy to address units firing fuels other than gas and fuel oil (including fuel oil like liquids). The Subgroup consists of the following members: Roy Carwile, Oliver Stanley, Bruno Ferraro, Karluss Thomas, Bill Maxwell, John Ogle, and Lawrence Otwell (subgroup lead).

The Work Group agreed to focus the development of a MACT floor on units firing gas and liquids and to further discuss how other-fired process heaters will be handled at the February 26 meeting once additional information from the Other-Fired Process Heater Subgroup is presented.

The Work Group formed an Applicability Threshold Subgroup to develop an approach for making an applicability determination. The Subgroup consists of the following members: Dave Smith, Bruno Ferraro, Chuck Feerick, Oliver Stanley, Bill Maxwell, and John Ogle (subgroup lead).

The Work Group formed a Numeric Emission Limits Subgroup to investigate the feasibility of setting numeric emission limits. The Subgroup consists of the following members: David Schanbacher, Bill Maxwell, Jane Williams, Jim Seebold, and Chuck Feerick (subgroup lead).

Wednesday, January 21

The Work Group came to closure on the MACT floor for gas and liquid fired units (liquid includes fuel oil and fuel oil like liquids, but final identification of all liquids that will apply is still being developed). It was decided that the floor for these existing sources is Good Combustion Practices (GCP).

The Work Group agreed to present a final decision on direct-fired process heaters at the February Coordinating Committee (CC) meeting.

The Work Group decided that the following topics will also be presented to the CC in February: (1) MACT floor for gas and liquid fired units (emphasizing maintenance of the stoichiometric ratio between 1 and 2), and (2) numeric emission limitation analysis. The Work Group will explain that documentation, maintenance, and monitoring techniques are being considered. As such, Work Group activities and efforts will be focused on the following subgroups prior to the February CC meeting: MACT Floor Documentation, Good Combustion Practices, and Numeric Emission Limits.

The Work Group decided to include in the status report to the CC in February that no testing needs have been identified at this time, but are still being considered.

The Work Group will also mention in the February status report to the CC that an applicability threshold is being considered.

ACTION ITEMS

Immediate goals and actions for the following subgroups are listed as follows:

Applicability Threshold Subgroup
- identify possible cases for a threshold
- review the HON (and other regulations) to develop an approach for determining an applicability threshold

Other-Fired Process Heaters Subgroup
- EPA will query and sort the survey and inventory databases to extract information on units burning anything other than gas or fuel oil (including fuel oil like liquids) and distribute this information electronically
- Work Group members will review the data on other-fired units for errors and forward corrections and additional information to Lawrence Otwell
- the subgroup will review the available information and develop an approach for other-fired units

MACT Floor Documentation Subgroup
- conduct an emissions analysis and a control analysis to fully develop and support the approach for MACT floor determination

Good Combustion Practices Subgroup
- revise MACT floor tables with a focus on differentiating between good combustion practices and the methods to achieve and maintain them
- consider maintenance
- develop an implementation plan for monitoring

Numeric Emission Limits Subgroup

- expand on the position paper discussing the infeasibility of numeric emission limits, including discussion of the economic feasibility

The MACT Floor Documentation and Numeric Emission Limits subgroups will contact the Combustion Turbine Work Group to develop an approach for developing the MACT floor and making numeric emissions limit determinations.

Lee Gilmer, John Ogle, and Bill Maxwell will coordinate information collection from the subgroups for compilation and development of topics to be presented to the CC. The subgroups meeting in Houston must forward information to Lee by COB February 11. All information to be presented to the CC must then be forwarded to Bill by COB February 13 for posting to the TTN.

Bruno Ferraro will finalize the Work Group's written decision on direct-fired units. Bruno will provide a final draft to all Work Group members electronically for comments. Any comments or corrections must be forwarded to Bruno by COB January 30. Bruno will update the final document for discussion at the February 10 and 11 meeting.

Jim Seebold will document how variations of residence time, temperature, and turbulence affect HAP emissions. He will also investigate how the stoichiometric ratio relates to NO_X emissions and the effects of narrowing the 1 to 2 stoichiometric range.

Janet Peargin and Jane Williams will gather information from the California Air Resources Board (CARB) concerning possible permit conditions requiring low NO_X burners for controlling HAP emissions.

John Ogle and the Applicability Threshold Subgroup will have a status report prepared for the February 26 meeting.

Jane Williams will draft a position on testing needs prior to the February 26 meeting.

EPA will prepare to speak about model plants at the February 26 meeting. All Work Group members will review the information provided by the Economic Analysis Work Group and prepare to discuss the topic as well.

Chuck Feerick will distribute meeting and lodging information for the upcoming meeting in Houston.

Janet Peargin will determine if the ARCO building in Los Angeles can be used for the February 10 and 11 meeting.

UPCOMING MEETINGS

A meeting for individual subgroups (MACT Floor Determination, Good Combustion Practices, and Numeric Emission Limits) is scheduled for January 28, 29, and 30 in Houston, TX. The following schedule was developed:

January 28 (afternoon, tentatively 1:00 P) - MACT Floor Documentation Subgroup meets to begin their analyses
January 29 (morning, tentatively 8:00A) - Good Combustion Practices Subgroup meets
January 29 (mid-morning or afternoon, tentatively 10:30A) - MACT Floor Documentation Subgroup wrap-up
January 30 (all day) - Numeric Emission Limits Subgroup meets

The next meeting is scheduled for February 10 and 11 in Los Angeles, CA. The following schedule was developed:

February 10 (afternoon, tentatively 1:00P) - status reports to entire Work Group from subgroups meeting in Houston
February 11 (morning, tentative) - subgroup break-outs
February 11 (afternoon) - entire Work Group meets to finalize agenda items

A meeting is scheduled for February 26 (8:00A - 3:00P) in Winston-Salem, NC. The Work Group decided that a discussion of testing needs will be conducted, as well as model plants and long term planning and goal setting. Topics for this and/or future meetings also include: MACT floor for new sources, beyond MACT floor for existing sources, other-fired units, an applicability threshold, and pollution prevention.

A meeting is tentatively scheduled for April 30 in Fort Collins, CO.

Attachment 3

Meeting Participants

MEETING PARTICIPANTS

Roy Carwile, Aluminum Company of America
Chuck Feerick, Exxon Company, USA
Bruno Ferraro, Grove Scientific Company
Lee Gilmer, Texaco, Inc.
Greg Johnson, Shell Development Company
Mary Lalley, Eastern Research Group, Inc.
Bill Maxwell, U.S. EPA, Office of Air Quality Planning and Standards (via telephone)
Diane McConkey, U.S. EPA, Office of General Counsel
Bob Morris, The Coastal Corporation
John Ogle, Consultant, Dow Chemical Company
Lawrence Otwell, Georgia-Pacific Corporation
Janet Peargin, Chevron Corporation
Fred Porter, U.S. EPA, Office of Air Quality Planning and Standards
David Schanbacher, Texas Natural Resource Conservation Commission, Office of Air Quality
Jim Seebold, Chevron Research & Technology Company
Dave Smith, Central Soya Company, Inc.
Oliver Stanley, Cargill, Inc.
Karluss Thomas, Chemical Manufacturers Association
Jane Williams, California Communities Against Toxics (via telephone)
Heather Wright, Eastern Research Group, Inc.

Attachment 4

Recommendation On Addressing Direct-Fired Process Heaters In The ICCR

Attachment 5

Good Combustion Practices For HAP Emissions Control From Process Heaters

Attachment 6

Infeasibility of Numerical Emissions Limit For Indirect,
Gas-Fired Process Heaters Or Boilers